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Broken Beyond Repair: Warren Spector on the History of Video Games

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AUTHOR'S NOTE

This interview was conducted by email in August 2013.

1 In 2010, I received a postdoctoral research grant from FQRSC to study the history of video games.[1] Usually you get this type of grant to go work in an established research center. While preparing the grant proposal, I discovered that there are not many permanent facilities relevant to this kind of research in academia. The rules had to be bent somewhat; my project would lead me to many different research centers in North America and Europe. I visited the last edition of the traveling exhibit Videotopia in Tallahassee (FL), the Computerspielmuseum in Berlin, the ViGaMus in Rome, and many other exhibits in the Silicon Valley area.[2] As you play the original arcade machines in Videotopia or at the California Extreme yearly gathering, you cannot help but wonder: what about *all these games* I cannot play right now? All these exhibits and the many journalistic books on the history of video games... what kind of access did the curators / journalists have? When access was impossible, did they rely on the same unreliable information – and sometimes flat out distortions – on the popular web databases that I had to rely on so often as a young game scholar?

2 This opening paragraph might sound pessimistic. It is not meant to minimize in any way the tremendous research done by journalists, the thoughtful attention of numerous curators to come up with engaging exhibits – let alone the emergence of many video game museums – or the dedication of the gamer community in itself, who has been more proactive than any other audience in the preservation of artefacts and development of accurate databases. But for all the complete ROM digital game sets being archived, all the relevant magazines being painstakingly scanned page by page, and all the information being entered in major data hubs such as Mobygames or Arcade History, chunks of this culture are dying on a daily basis. Preservation efforts have to be accelerated and solutions put forth before thousands of video games become broken beyond repair.

3 During this research project, I had the opportunity to meet many scholars concerned with the preservation and presentation of video game history. Espen Aarseth (IT Copenhagen), Raiford Guins (Stony Brook University), Henry Lowood (Stanford Libraries) and myself had the idea to create the History of Games international conference[3] in order to lay out the methodological problems, share insight and solutions, and altogether to stimulate research on the history of games. Not that academia is de facto better or even necessary in this process. But it can play a decisive role in gathering interest and resources, as well as legitimize a culture even when the industry responsible for the cultural production does not see value in it. To our surprise, some key figures manifested their interest in our project before we could even dream of implicating the industry. This interview came about thanks to the generosity of Warren Spector, who agreed to participate in the conference and who is deeply concerned with the history of video games.

4 The History of Games committee divided the conference into three tracks: telling history (creating narratives out of the large amount of relevant data, or museum exhibits that 'show and tell' the history of games), working with history (doing archeological research on older games and relevant documents, material and digital preservation) and building history (being aware of methodological issues and the

cultural fascinations that dictate how any historian works and constructs history). In the following contribution, I will present some concerns about these issues, along with some of the work being done to address them. The interview with Warren Spector will shed further light on the history of games and the challenges faced by young historians.

5 Thanks to postdoctoral funding, I have spent several weeks exploring the Cabrinety collection at Stanford Libraries, which includes over 15,000 titles. The collection is so large that it is stored off-campus; you have to page the boxes online to access their content the next day at the Special Collections desk of the Green Library. The content of those boxes had not been given extensive archival treatment at the time. Moreover, one can only access the game packaging and manual inside the library; there are no set protocols to experience the software on the actual platforms. This limited access can be justified easily with preservation goals. Notwithstanding these limitations, the Cabrinety collection gave me more accessibility than most game scholars out there could ever dream of.

6 Stanford is not the only institution that can provide first-hand access to a massive collection of games and relevant paratextual elements. The Strong Museum of Play started collecting video game artefacts in 2006; the operation – 50,000 games strong and growing – is now led by The International Center for the History of Electronic Games. As we learned at the conference, Jon-Paul Dyson was able to help Brenda Romero when she stumbled upon Sirtech design documents for sale on eBay. Romero's delivery of the anecdote – of a prized game designer finding her legacy dilapidated to the highest bidder – really made the absurd nature of the situation come forward, almost to comical effect. But comedy soon gave way to the painfully obvious: the video game industry, for the most part, has no memory.

7 Again, not everything is doom and gloom. Since 1994 in France and more recently at the Library of Congress in the United States, publishers have to give physical copies of their games to complete the copyright process.[4] In Montreal, the local WB Games, Eidos and Electronic Arts studios have started to give copies of their games to the national archives. Old timers like Taito and Nintendo are making efforts to salvage circuit boards and design documents.[5] However, the industry is facing a very difficult period, with the exploding costs of triple-A production and marketing, and the commercial failure of more than 80% of games.[6] The sector is under tremendous stress. Company archives are not a big concern in a context where everybody is working overtime to get the game out on time. The industry needs extensions: more storage (infrastructures to store the artefacts), more processing power (individuals dedicated to the process of corporate memory), and more financial power (funds, in a context where even large corporations struggle to cut it even or make a profit). In the meantime, researchers working on the history of games will have a hard time finding company archives to conduct their studies.

8 One can only tell as much as one can work with. Accessibility is going to get worse before it gets better. Many games and systems are already lost or unlikely to be found in a functional state. Games that were distributed on magnetic media (cassettes, floppy discs) are failing as this piece is being written, and the early generations of CD-ROM drives and discs are also quite fragile. While the ROM chips used in NES and Genesis cartridges are likely to last much longer, the availability of the console itself becomes problematic; many fail within 10 years of operation, and replacement parts will become

harder to find as technology continues to evolve. Maybe hardware makers could be convinced to rebuild and redistribute hardware and software for historical purposes? One could observe that these corporations can "pass away" too.

9 At this point, digital preservation might appear as the obvious solution. Indeed, copies of CD and cartridge data are readily available, with high standards and procedures established by the underground preservation community.[7] Many great emulators exist for a vast array of older systems. However, these tremendous contributions also bring new complications to the table. ROM digital copies cannot be transferred easily to the original support of the game and run on the original hardware. Most emulators do not reproduce the hardware processes of older consoles perfectly (for lack of programming time and / or efficiency). Distortion in the execution of the games on these virtual platforms occurs more frequently than the typical researcher can detect; how could it be noticed if the source was never played or played a long time ago? Since the whole arcade paradigm of video game design relied on split second timing and twitching abilities, these issues might not be as trivial as they sound. If enemies or projectiles start moving at even slightly different speeds, the gameplay experience might be altered significantly.

10 Available traces determine the history that can be told. Concurrently, contemporary fascinations inevitably dictate what should be discarded, and what should be preserved. As historians of media, we are fascinated by the progressive technical mastery and the phenomenal industrial expansion associated with video games. Our timelines are populated with first instances of major technological breakthroughs, platforms, studios, corporations, and with a few salient great-grandfather figures. Even if the glorifying story of video games appears to build itself under our very eyes, stories are never just reported; storytellers build it more or less consciously. Many books and exhibits on the topic still use techno-industrial period markers: the ever convenient platform wars, where complex machinery is reduced to a meaningless bit-rating; the first major commercial success, the crash, and the arrival of major corporations.[8] The accumulation of technology and the expansive nature of the industry necessitate so much attention that one is left to wonder what there is to say about the actual experience of playing games.[9] How has play culture evolved over time? *Digital Play* (Kline et al., 2003) and Donovan's *Replay* (2010) already have some answers for us that go beyond the contemporary fascination with casual vs. hardcore gamers. On top of preserving information about technology and industrial growth, we need to find ways to preserve the experience of game playing and its evolution in order to provide a more engaging portrait of the medium's history.

11 In his foreword to Dillon's *The Golden Age of Video Games* (2011), Ted Dabney wrote:

> There is a lot of controversy over who invented the first 'video game' [...] Some say it was Ralph Baer while others say it was Nolan Bushnell. The truth is, it was Thomas Goldsmith Jr. and Estle Ray in 1947. The real question should be 'Who created the video game *industry*? Nolan and I get the credit for that one. (2011: ix)

12 Faced with such a self-assured statement, comforting us with ever more specific facts about techno-geniuses and industrial grandeur, I would like to oppose the following: what would be the real question(s) if we asked game players, designers, scholars, critics? What would they have to say about the history of video games? I had the opportunity to reflect on these issues with someone who is a little bit of all of that (and a lot of some of that): Warren Spector.

13 Spector has played a major role as a designer and producer in many development studios since the 1980s. He was part of the original "game canon" committee put forth by Henry Lowood and took part in the first international conference on the history of games. He has been actively trying to make the video game industry pay more attention to the preservation problems that lie ahead. His experience as a film scholar also makes him a relevant interlocutor to discuss the current academic concern of how video game history is told.

CT: The video game industry right now is risky business, with a vast majority of games not recouping the initial investment. At the same time, institutions such as museums and universities are under financial stress. In this context, where do you think the resources necessary for game preservation should come from?

WS: Wow, I wish I knew! So far, it seems as if a lot of the money is coming from angel investors – people in and out of the game business or the game playing community who care enough to donate money, materials and time. For now, as you say, funding is a problem everywhere. All we can do is keep beating the bushes to flush out potential investors.

Frankly, one of my biggest frustrations is how anti-philanthropic many moneyed developers are. There's money for flashy cars and mansions but not for charity – or, in our case, games preservation. That's just sad.

CT: Do you see the "monetization of retro gaming" through official channels (i.e. buying virtual copies of older games on digital distribution platforms) as a viable solution to these financial problems?

WS: I don't see any possibility of large scale retro game monetization... no... For starters, I doubt there's a big enough audience to provide enough money to provide sufficient funding to solve financial problems.

Having said that, I don't think the dollars and cents of retro-monetization strategies are the real problem. The real problem is that the publishers who own trademarks and copyright will never let it happen. You'd think they wouldn't care about properties and games they haven't exploited in years, but you'd be wrong. My experience of trying to resurrect old properties can be summed up in a single sentence. No publisher has ever said it explicitly, but their message is clear – "If I own it, it has value." They act as if that were gospel and won't let loose of much, even in the service of a good cause.

Of course, that's just been my experience and my observation. I could be wrong. I hope I'm wrong. But, regardless, the critical element in monetizing preservation by making old games available depends on finding the rights holders (often more difficult than you might expect) and then convincing them to let loose of things they don't want to risk losing.

CT: Technologies die, corporations too. Most of the video game hardware and storage media will become broken beyond repair, and unlikely to be remanufactured in their original form in the future. What are your thoughts on emulation? Do you consider the translation of classics on newer platforms, with different audiovisual technologies and interfaces, a travesty of the original experience? Considering the great disparity of these technologies to

begin with, in the world of personal computers at the very least, do you think such attachment to the original experience is illusory in itself?

WS: There are really a few questions here. Before I get to them, let me agree with your "broken beyond repair" comment. Hardware and media deteriorate and the ability to repair it becomes more and more difficult with the passage of time. Emulation seems like a great answer. I'm a huge supporter. But I'm also a fan and a history buff, not a rights holder who sees emulation as just a way to compromise and, possibly, lose the rights to properties the courts perceive as insufficiently protected. Emulation should be a bigger part of the preservation equation, but I fear it won't be.

Now, to your second question – translation of classics to new platforms – there are two ways to approach that option. As a player, if not as a purist or historian, I'm a fan of both.

First, there's the option of recreating the look, sounds and feel of the original. That's terrific. It's hard to imagine why anyone wouldn't want to do that (other than the publishers)

Second, there's the idea of updating old games – updating graphics, sound, UI. As a player, I love this, too. It doesn't seem like much of a preservation solution, but it's a ton of fun when you get your hands on an old favourite and see it dressed in modern garb.

CT: You've spoken fondly of the Disney archives and the creative opportunities it opened for your team at Junction Point working on *Epic Mickey*. You have clearly expressed the benefits of such in-house company archives. Why do you think other studios are, for the most part, still oblivious to such benefits? The unstable nature of the industry also seems responsible for the destruction of relevant material (Vivendi didn't care for the Sierra archives when they acquired the studio, for instance). How could we incite the industry to realize the commercial value – let alone the cultural value! – of preserving its own legacy? And beyond in-house archives, do you think it is possible that more relevant artefacts (design documents, source code) would be given to preservation institutions in such a secretive and competitive creative culture?

WS: I'm pretty comfortable saying the Disney Archives – the most remarkable collection of its kind that I know of – exists only because Walt Disney himself wanted to preserve his, and his company's history. I've spent most of my life fighting the urge to give in to the "great man" theory of history, but in this case, I think it's the right answer. Whether from ego or pragmatism, Walt saw the value in preserving history, so history was preserved. I'm certain there was more to the story than that, but, you know, when the legend becomes the fact, print the legend and all...

Why don't we see similar things happening in video games? I guess you could say we don't have any great men. I don't really believe that, of course, but we do have a lot of people and companies that are so narrowly focused on what comes next, in a medium where everything changes every five years or so, thanks to hardware advances no other medium has had to deal with, they don't think about history much. In that way, they... we... are not so different from most of the non-Disney folks in Hollywood. Sure, David O. Selznick and Gloria Swanson were packrats, but folks like John Ford and others didn't see any value in the ephemera associated with their work. They tossed it.

Frankly, I think it's going to take a lot of work and an ongoing effort to get video game companies to see the value in the past, to see that the expense associated with

preservation is a good way to spend money that could be spent on new product. I'm not sure developers and publishers will ever see the value of internal archives. And I'm not sure it's sensible to encourage them to do so – we want access to materials – limited access as I already said, and if the developers and publishers are in control of historical materials we'll have to deal with very limited access. Worse, in some ways, we'll have to deal with inconsistent preservation approaches. And can you imagine the chaos of each company cataloguing materials in whatever manner they choose? It'd be crazy.

The real answer, I think, is to bug the developers and publishers to endow regional centers of preservation and to donate materials. In that way, materials could be catalogued and preserved in a consistent manner. Man, am I a dreamer! Pardon me while I put my cynical mask back on.

CT: As a producer for many major projects at Origin Systems and Ion Storm, you had the opportunity to overview all the aspects involved in the existence of a video game: technological research and development, game design, marketing strategies, etc. From your experience, what documents / artefacts generated during these processes are the most important to preserve?

WS: My varied experience notwithstanding, I think you're asking a question no one can really answer today. There's simply no way of telling what future generations of fans, scholars, historians and critics will find interesting, necessary or important. As a grad student studying the history and meaning-making strategies of television, I found the old show, *Happy Days*, the most interesting program to work with. I doubt many people would view *Happy Days* as great art. I did. My Masters Thesis was on Warner Brothers cartoons. What's important about that?

But that's all high-level stuff – important, but not exactly what you were asking. You want to know what materials are most important to preserve? I'll tell you. All of them. If you're studying the evolution of design, you want and need design documents, emails, test data... If you're studying the marketing of games, you need box designs, ad mockups, maybe even t-shirts (or Oswald the Lucky Rabbit ears!)... If you're studying the business of games, you want budgets, schedules and so on. And if you're studying the work of a single developer, you might want his or her report cards and elementary school drawings!

There is no such thing as the "most important" thing to preserve. Preserve as much of it as possible, I say.

CT: Can you give us a concrete example of documents used in the production of some of the major games you worked on that would have been especially relevant to preserve and study?

WS: You're really not going to let me off the hook on this "most important thing to preserve" thing, are you? Okay, I'll answer, but bear in mind that all you're getting here is what I think is most interesting... right now... given my biases and interests.

That having been said, I always think it's interesting (and fun) to look not just at a single concept or design document, but at a series of them, over time. Seeing how a game evolves over time is fascinating. Frankly, it's fascinating even when you're in the middle of the development process that forces an evolution of ideas. How do you adjust to budget changes, release date changes, team capabilities and interests

without losing the spark, the core idea that made you want to make a game in the first place?

Specifically, from my own work, I guess I'd pick *Deus Ex*. That game changed in pretty much every detail over time, thanks to team input, engine constraints, team interests, trying things that ended up not working... But for all the changes, the finished game reflected with almost uncanny precision the original vision of a game I imagined five years before we shipped. To get the full picture, you'd need to access schedules, recruiting paperwork, emails, concept art and builds. But you could at least get a tiny, view-through-a-crack-in-the-wall view of how the process of change affected *Deus Ex* by looking at the dozens of design document drafts.

CT: In another life, you have studied to become a film critic and have taught classes on cinema. Cinema studies have developed critical and theoretical readings of the medium's history, as we can see in the academic works of Noel Burch, Tom Gunning, Youssef Ishagpour and André Gaudreault among many others. Similar work is emerging when it comes to the history of games. For instance, *Digital Play* (Kline et al., 2003) puts emphasis on the concept of "militarized masculinity"; Tristan Donovan's *Replay* (2010) tries to delineate aesthetic schools such as the French touch and English surrealism. What do you think of such readings of history?

WS: I think we're still very much in the early days of games criticism. We live in a world of reviews, purely functional and aimed at enthusiasts, and, at the same time, in a world of hardcore, academic, no-one-but-academics-can-understand-or-care work.

What we're lacking is a more mainstream, accessible body of critical thought about games. For my money, we need a lot less Noel Burch, Peter Wollen and Christian Metz and a lot more Andrew Sarris, Robert Warshow, James Agee, Manny Farber and David Thomson[10].

Academics tend to talk only to each other, in language that seems willfully designed to obfuscate and keep normal people out. Reviewers tend to talk only to fans and, again, keep normal people out. That leaves an obvious, gaping hole in our critical corpus – serious, popular criticism, accessible to those normal folks everyone currently engaged in the study of games seems intent on pushing away.

Where's our damn Andrew Sarris!

CT: Technological innovation and industrial landmarks often act as period markers in video game history books. Information on platforms, game engines, major game studios and industrial structure has been documented through journalistic accounts and offer a reassuring "fact-based" vision of history. The progressive technical mastery and industrial growth seem to naturally invite us to build overarching glorifying narratives. Yet the culture of play goes beyond the technological and industrial aspects. Do you perceive major turning points in the evolution of this culture throughout the development of video games? Should we rather speak of overlapping paradigms in game design and game playing, which becomes more or less preeminent at various moments in history and locations around the world?

WS: First, I'd argue we haven't done a great, or at least comprehensive, job of capturing the history of video games – that "fact-based" vision you talk about. Obviously, we've done a better job of that than we have of critical analysis of how games make meaning, what sorts of meaning they can and do make, how meaning and meaning-making conventions have changed over time and how the culture of games and game players has changed. There's a ton of work to be done in those areas.

I think it's fine to think in terms of overlapping paradigms in design and play – it's overly simplistic to assume that media grow, change and mature in discrete, linear chunks. However, just beginning to think about the critical and historical changes in games culture, broadly speaking, is a good and necessary thing. If someone wants to think about discrete eras, design paradigms and player profiles, I'm fine with that. We just need to start thinking about the games medium as something more than a way for kids to waste time that could be better spent reading about or living life (as if books are better than games in some cosmic sense and games aren't a part of life!).

CT: You have contributed to the creation of games that are known to push the boundaries and merge mechanics from different genres (such as *Wing Commander*, *Ultima Underworld*, *System Shock*, *Deus Ex*). Recently, academic books focusing on genres have emerged (*Horror Video Games*, edited by Bernard Perron, 2009; *Guns, Grenades, and Grunts: First-Person Shooter Games*, edited by Voorhees et al., 2012). Considering the fluidity of exchanges and unstable nature of genres, do you think it is problematic to approach video game history through the study of smaller corpus defined by genre?

WS: I've thought about genre in games so much over the years it makes my head hurt! As you point out, my design approach is dominated by a self-conscious melding of "genres," but think about that for a minute.

In most (all?) other media, genres are defined by content alone. Westerns are set in the American West, feature guys on horseback chasing down other guys on horseback, guys protecting schools, farms, Indian attacks, cattlemen vs. farmers and so on. War films, gangster films, horror films... all are defined by their content. Even the larger categories – "musicals," "comedies," "melodramas" and the like – are content-driven, though with some formal differentiators as well.

Games clearly feature genres that can be classified by their content, but I'd argue any useful definition of genre in games must put play patterns at the forefront. Certainly that's what I've always tried to do in thwarting player (and publisher!) expectations. *Deus Ex* is a genre piece to the extent that it's a near future science fiction game, but there are lots of those out there for players to enjoy. The genre-blending that, I hope, distinguishes *Deus Ex* from all those other games, is the tripartite approach to gameplay (i.e., you can play the game as a shooter, a stealth game or as a roleplaying game dominated by interaction with non-player characters).

If *Deus Ex* had combined science fiction and western content conventions, it would have been ridiculous. Game genres have to be defined by gameplay first, and only secondarily by content.

CT: In closing: what are some of the games you feel have not received the necessary attention in order to reflect on their influence in the history of the medium?

WS: Huh. Interesting question... I could rattle off a list of games I think of as "influential," but most of them have been recognized as such and given plenty of attention. Let me think about some unsung heroes...

Okay, start with a Japanese RPG – *Suikoden*. That game influenced a lot of us, in terms of how we approach player choice, the power of customization (of a home base, in the cause of Suikoden) and the power of changing gameplay based on what you do or don't do as you play (e.g., shifting information, quests and capabilities based on which characters you help and which you don't).

Next, I'd go with Paul Neurath's *Space Rogue*. That game combined first-person space combat simulation, orthogonal RPG [Role-Playing Game] play and simple arcade gameplay. That game taught many lessons to the few who paid attention upon its release.

I'm not sure it qualifies as a game that didn't receive enough attention, but I think it's interesting the way *Ico* changed the way a lot of developers thought, and think, about games. There have been "save the princess" games since the dawn of time. But *Ico* was the first to make that idea visceral and personal. The power of touch... of your character holding the virtual hand of another... the need to balance protection of a character slower and seemingly weaker than you are, with the need to explore a world and battle enemies... I mean, are you serious? The creativity required to conceive such a game is mind-blowing. And ever since, it seems like every acclaimed game features some variation of the guy-accompanied-by-girl-in-need-of-saving scenario. That screams "influence" to me.

At risk of seeming self-serving, I'd throw *Ultima Underworld* into the mix. All credit to the Blue Sky (later Looking Glass) team for creating the first real-time, 3D, fully texture-mapped, first-person game... ever. And even if you want to dispute that, it was clearly the first roleplaying game with that set of characteristics. In a sense, every first-person RPG that's followed owes a debt to *Underworld*. I wonder how many developers realize that. Given our lack of respect for history, would that surprise anyone?...

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NOTES

1. Fonds Québécois de Recherche sur la Société et la Culture.

2. Videotopia was the first travelling exhibit dedicated to video games and opened in 1996 at the Carnegie Science Center. Acknowledging "the destruction of the majority of these games and fearing the loss of their historical importance", the Electronics Conservancy organization set out to find and restore 400 rare arcade cabinets, while also collecting home video game systems. Before its final showing in Tallahassee, most of the collection had been sold to the Strong Museum of Play in Rochester.

3. www.history-of-games.com

4. In 2007, following a proposition from major universities led by games researcher Henry Lowood from Stanford, the Library of Congress announced it would preserve a "game canon" formed of the ten "most significant" titles ; the collection has been expending ever since. Lowood was also responsible for the academic research project "How They Got Game : The History and Culture of Interactive Simulations and Video Games" at Stanford University.

5. For more information on the way different corporations handle preservation issues, see John Andersen's "Where Games Go To Sleep" three-part feature on Gamasutra. http://www.gamasutra.com/view/feature/6271/where_games_go_to_sleep_the_game_.php

6. Triple-A is a common superlative expression referring to games which benefit from significant development and marketing budgets from major studios.

7. For instance, The Old School Emulation Center project (TOSEC) established a clear protocol to archive and name ROM sets ; users constantly update lists about software released on more than 200 platforms. http://www.tosecdev.org/

8. 'Platform wars' is the common term referring to the cycles of console production. This commercial 'warfare' attracts a lot of attention and provides a tempting decoupage of video game history into generations. It should be noted that the actual production of games console is not as regular as such markers suggest, and that video game hardware cannot be understood properly when it is reduced to the bit-rating of the main processor.

9. Again, this is not meant to diminish the importance of the journalistic accounts focusing on industry (Kent, 2001) or the numerous academic efforts to explain the intricate technological

aspects in a way that is more accessible to the research community. See, among others, the founding volume of the Platform studies series, *Racing the Beam* (Bogost & Montfort, 2009).
10. Editor's note : these are major American film critics.

AUTHORS

WARREN SPECTOR

Warren Spector is a veteran comic book author, novelist, film reviewer, electronic game designer/producer. He has worked in the game industry since 1983 and is a fixture in the Austin game development community. Though now firmly entrenched in the electronic gaming world, Warren Spector's gaming roots are in the pen-and-paper game business. Through his career as a game director/producer, Spector oversaw the development of many renowned games such as *Ultima Worlds of Adventure: Martian Dreams*, *Ultima Underworld: The Stygian Abyss*, *System Shock*, *Ultima VII: Part 2, Serpent Isle*, *Wings of Glory*, *Cybermage*, *Deus Ex*, *Thief: Deadly Shadows*, and more recently *Disney Epic Mickey*. In addition, Spector is an Assistant Instructor for film and television studies at the University of Texas in Austin and the author of numerous magazine and newspaper articles. In 2011, he received the Pulcinella Award from the Cartoons on the Bay conference, in recognition of his body of work. In 2012, he was awarded the Game Developers Choice Lifetime Achievement Award as well as an honorary doctorate by Columbia College, Chicago.

CARL THERRIEN

Carl Therrien is an assistant professor in the new video game studies program at Université de Montréal. He was the co-founder and main organizer of the first international conference on the history of games held in Montreal in 2013. He worked on a postdoctoral research project on the history of video games, and completed a Ph.D. thesis about the formal and psychological aspects of immersion in fictional worlds. Major publications include the opening chapter in Mark J.P. Wolf's *Before the Crash* (Wayne State University Press, 2012), many entries in *Greenwood's Encyclopedia of Video Games* (2012), a historical contribution in Bernard Perron's anthology on *Horror Video Games* (McFarland & Company, 2009), and an upcoming paper on the rise of cooperative address in game design (IEEE Handbook on video games).